

## SEARCH REQUEST FORM

Requestor's Name: Sonya Harris-Ogugua Serial Number: 08/111296  
Date: 4-19-95 Phone: 308-2216 Art Unit: 3309

### Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

Search topic: Method for reshaping a cornea via  
placing an electrode in contact with cornea.

relevant keywords: reshaping, reprofiling cornea  
electrode, electrothermal, electrical  
energy, thermal energy,  
electrical current  
denature corneal tissue, non visual axis

### STAFF USE ONLY

Date completed: <u>4-25-95</u>	Search Site	Vendors
Searcher: <u>EG</u>	<input checked="" type="checkbox"/> STIC	<input type="checkbox"/> IG Suite
Terminal time: <u>125</u>	<input type="checkbox"/> CM-1	<input checked="" type="checkbox"/> STN
Elapsed time: _____	<input type="checkbox"/> Pre-S	<input type="checkbox"/> Dialog
CPU time: _____	Type of Search	<input type="checkbox"/> APS
Total time: <u>140</u>	<input type="checkbox"/> N.A. Sequence	<input type="checkbox"/> Geninfo
Number of Searches: _____	<input type="checkbox"/> A.A. Sequence	<input type="checkbox"/> SDC
Number of Databases: <u>5</u>	<input type="checkbox"/> Structure	<input type="checkbox"/> DARC/Questel
	<input checked="" type="checkbox"/> Bibliographic	<input type="checkbox"/> Other

~~> file.medline..~~

FILE 'MEDLINE' ENTERED AT 11:25:01 ON 25 APR 95

FILE LAST UPDATED: 19 APR 1995 (950419/UP). FILE COVERS 1966 TO DATE.  
+QLF/CT SHOWS YOU THE ALLOWABLE QUALIFIERS OF A TERM.

MEDLINE, CANCERLIT AND PDQ ERRONEOUSLY ANNOTATED CERTAIN ARTICLES  
AUTHORED OR CO-AUTHORED BY DR. BERNARD FISHER WITH THE PHRASE  
"SCIENTIFIC MISCONDUCT-DATA TO BE REANALYZED." ALL SUCH ANNOTATIONS  
HAVE BEEN REMOVED OR ARE BEING REMOVED. WE APOLOGIZE FOR ANY PROBLEMS  
OR CONCERNS THIS MAY HAVE CAUSED. USERS SHOULD DISREGARD THOSE PRIOR  
ANNOTATIONS.

~~=> d his.11=16..~~

(FILE 'MEDLINE' ENTERED AT 11:09:36 ON 25 APR 95)

DEL HIS Y

L1 22029 S A9.371.60.217+NT/CT  
L2 16857 S C11.204+NT/CT  
L3 8716 S C11.204.564+NT/CT  
L4 25424 S E7.296+NT/CT  
L5 85 S L4 AND (L1 OR L2 OR L3)  
L6 80 S L4 AND L1

~~=> display.history.full 17=~~

(FILE 'MEDLINE' ENTERED AT 11:09:36 ON 25 APR 95)

L7 34510 SEA CORNEA? OR COREO? OR CORNEUM?  
L8 298 SEA L7(3A)(SHAPE# OR SHAPING# OR RESHAP? OR DENATUR? OR P  
ROFIL? OR REPROFIL? OR REFORM? OR RE(W)FORM? OR CONTOUR?  
OR RECONTOUR? OR REMAK? OR REMOULD? OR REMOLD? OR REFASHI  
ON? OR RECAST? OR MOLD? OR MOULD? OR REWORK? OR RECONSTRU  
CT? OR REBUILD? OR REDESIGN? OR RESTRUCTUR? OR REMODEL?)  
L9 1 SEA L8 AND L5  
L10 1 SEA L8 AND L4  
L11 84 SEA L5 NOT L9  
L12 1475 SEA L7(3A)(ALTER? OR MODIF? OR CHANG? OR TRANSFORM? OR TR  
ANSMUTAT?)  
L13 5 SEA L12 AND L5  
L14 6 SEA L12 AND L4  
L15 5 SEA L13 NOT L9  
L16 1 SEA L14 NOT (L9 OR L15)  
~~79 SEA L11 NOT (L9 OR L15 OR L16)~~ *titles and selected abstracts*  
L18 7 SEA L9 OR L15 OR L16  
L19 49270 SEA ROUND? OR CIRCULAR? OR CIRCL?  
L20 4 SEA (NONVISUAL? OR NON(W)VISUAL?)(3A)(AXIS? OR AXES# OR C  
OORDINAT? OR PLANE# OR PLANAR? OR AXIAL? OR LINE# OR CHOR  
D? OR TANGENT? OR DIAGONAL? OR SECANT? OR PERPENDICULAR?)  
L21 1 SEA L17 AND L19  
L22 0 SEA L17 AND L20

8 SEA L18 OR L21

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FILE MEDLINE

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=> d 123 1-8 all

123 ANSWER 1 OF 8 MEDLINE

AN 92103121 MEDLINE  
TI Surface modification of corneal contact lens  
with phosphoryl choline by glow discharge.  
AU Sunny M C; Sharma C P  
CS Division of Biosurface Technology, Sree Chitra Tirunal Institute for  
Medical Sciences and Technology, Trivandrum, India.  
SO Biomater Artif Cells Immobilization Biotechnol, (1991) 19 (3)  
599-612.  
Journal code: A42. ISSN: 1055-7172.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 9204  
AB Polymers like poly(methylmethacrylate) (PMMA) and  
poly(2-hydroxyethylmethacrylate) (PHEMA) are widely used in the  
development of hard and soft contact lenses. Cell adhesion and  
deposition of chemicals such as calcium, lipoproteins and mucin on  
the lens surface cause visual acuity which is the main problem in  
extended uses of contact ocular lenses. In order to minimise the  
cell adhesion and other type of depositions, a method of surface  
modification of lens involving the use of phosphoryl choline, a  
phospholipid and the glow discharge technique has been described.  
The power variation of the lenses after modification has been  
checked using Topcon lensometer. The possible power changes of the  
modified samples due to the exposure to the normal light in the  
laboratory, darkness, ultraviolet (U.V.) light or saline have been  
investigated by taking the visible and ultra violet spectra using  
Beckman spectrophotometer. Surface energy variations after  
modifications of the samples have been checked by sessile drop water  
contact angle measurements. Glow discharge treatment increases the  
hydrophilicity of the samples. It seems, the modifications do not

affect the power of hard contact lens significantly. It is also observed that the exposure of samples to the normal light in the laboratory, darkness, U.V. light or saline make no significant change in the visible and ultraviolet spectra of the samples before and after modification.

CT Check Tags: Human  
Air

\*Contact Lenses

\*Cornea

Electrodes

Optics

\*Phosphorylcholine

Surface Properties

RN 107-73-3 (Phosphorylcholine)

L23 ANSWER 2 OF 8 MEDLINE

AN 91367446 MEDLINE

TI Effects of rigid contact lens edge lift changes on tear pump efficiency.

AU Fink B A; Hill R M; Carney L G

CS College of Optometry, Ohio State University, Columbus.

SO Optom Vis Sci, (1991 Jun) 68 (6) 409-13.

Journal code: OIZ. ISSN: 1040-5488.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 9112

AB The effects of rigid contact lens axial edge lift **changes** on **corneal** oxygenation and tear exchange with the blink were studied for lenses of five axial edge lifts (0.05 to 0.13 mm in 0.02-mm steps). The overall and optic zone diameters were maintained at 8.8 and 7.4 mm, respectively, and all other parameters were held constant. Oxygen uptake rates were measured for the normal open eye after 5 min of static (without blinking) and dynamic (with blinking once every 5 s) contact lens wear. As expected, no significant differences were found in the oxygen uptake rates associated with the static wear of the contact lenses; however, under dynamic conditions, increasing edge lift was associated with a reduction in oxygen demand. The differences between data obtained under static and dynamic conditions increased with increasing axial edge lift, and subjects with small palpebral aperture sizes seemed to benefit more from increasing axial edge lift.

CT Check Tags: Female; Human; Male  
Adult

Analysis of Variance

Blinking

\*Contact Lenses

\*Cornea: ME, metabolism

Electrodes

\*Oxygen Consumption

## Polarography

\*Tears: PH, physiology

L23 ANSWER 3 OF 8 MEDLINE

AN 91257688 MEDLINE

TI [Measuring electrical impedance in normal and pathologic corneas].  
Messung der elektrischen Impedanz an normalen und pathologischen  
Hornhaute.

AU Biermann H; Boden K; Reim M

CS Augenklinik Medizinischen Fakultät der RWTH, Aachen, Bundesrepublik  
Deutschland.

SO Fortschr Ophthalmol, (1991) 88 (1) 17-20.

Journal code: F5V. ISSN: 0723-8045.

CY GERMANY: Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE)

LA German

EM 9109

AB With a new technique the impedance of 89 normal and 7 severely  
damaged corneas was determined in vivo to look into the correlation  
between impedance and corneal cell damage. We found highly  
significant differences in impedance between normal and  
pathologically **altered corneas**. At 500 Hz  
frequency the impedance of normal corneas was 53.6 kOhm while the  
impedance of burned corneas only averaged 8.0 kOhm. There seems to  
be a correlation between the degree of pathological**alteration of the corneal tissue and impedance as**  
measured with this technique. The electrode head used allows fast,  
reproducible measurement of corneal impedance without any strain on  
the patient. Further studies must elucidate whether the method can  
be used as an early indicator of corneal damage before the onset of  
macroscopic change.

CT Check Tags: Human

\*Burns, Chemical: PP, physiopathology

**Cornea: IN, injuries**

\*Cornea: PP, physiopathology

**Electrodes**

English Abstract

\*Eye Burns: CI, chemically induced

Eye Burns: PP, physiopathology

\*Membrane Potentials: PH, physiology

\*Microcomputers

\*Signal Processing, Computer-Assisted: IS, instrumentation

\*Tonometry: IS, instrumentation

L23 ANSWER 4 OF 8 MEDLINE

AN 90122718 MEDLINE

TI Transient **corneal changes** associated with the  
use of gold foil electrodes.

AU Aylward G W; McClellan K A; Thomas R; Billson F A

CS Department of Ophthalmology, University of Sydney, Sydney Eye  
Hospital, Woolloomooloo, Australia.

SO Br J Ophthalmol, (1989 Dec) 73 (12) 980-4.  
Journal code: AZK. ISSN: 0007-1161.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 9005

AB The corneas of 50 normal subjects were examined before and after electroretinography performed with gold foil electrodes. Examination included slit-lamp biomicroscopy and staining with sodium fluorescein. All corneas were normal on examination prior to electroretinography. Three types of transient **corneal changes** were observed--punctate epithelial keratitis, corneal erosions, and stromal thinning. Each cornea was assigned a numerical damage score based on a simple scoring system. Thirty one subjects (62%) had some degree of **corneal change**, and in three cases (6%) follow-up was required. Multiple regression analysis was performed to discover any risk factors. Both age of the subject and the use of local anaesthetic were strongly associated with **corneal changes**.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't Adult

\*Cornea: PA, pathology

Corneal Stroma: PA, pathology

\*Electrodes: AE, adverse effects

\*Electroretinography: IS, instrumentation

\*Gold

Keratitis: ET, etiology

Keratitis: PA, pathology

Middle Age

RN 7440-57-5 (Gold)

L23 ANSWER 5 OF 8 MEDLINE

AN 89121724 MEDLINE

TI [Application of unipolar diathermy to the sclera to **modify corneal** refraction].

Unipolare Diathermie-Applikation der Sklera zur Beeinflussung der Hornhaut-Refraktion.

AU Treumer H; Treumer J; Meyer-Rossler A

SO Fortschr Ophthalmol, (1988) 85 (6) 675-8.  
Journal code: F5V. ISSN: 0723-8045.

CY GERMANY, WEST: Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE)

LA German

EM 8905

CT Check Tags: Animal; Human

\*Diathermy: MT, methods

Electrodes

English Abstract

\*Refraction, Ocular

Swine

L23 ANSWER 6 OF 8 MEDLINE  
AN 86032849 MEDLINE  
TI Contribution from proximal retina to intraretinal pattern ERG: the M-wave.  
AU Sieving P A; Steinberg R H  
NC EY01429  
SO Invest Ophthalmol Vis Sci, (1985 Nov) 26 (11) 1642-7.  
Journal code: GWI. ISSN: 0146-0404.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 8602  
AB Intraretinal electroretinographic (ERG) responses were recorded from cat to spatial square wave gratings that were reversed in contrast (pattern ERG, PERG). Maximum 8 Hz PERG amplitudes occurred in proximal retina. Intraretinal ERGs to **circular spots** (photopic) also were maximal in proximal retina and resembled the M-waves of cold-blooded retinas. The temporal transforms of M-wave responses to 8 Hz flicker (to simulate contrast reversal conditions) imitated the 8 Hz PERG, suggesting that the M-wave may contribute significantly to the PERG.  
CT Check Tags: Animal; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.  
Cats  
Cornea: PH, physiology  
\*Electroretinography  
\*Evoked Potentials, Visual  
Microelectrodes  
Photoc Stimulation  
\*Retina: PH, physiology  
\*Retinal Ganglion Cells: PH, physiology

L23 ANSWER 7 OF 8 MEDLINE  
AN 83210973 MEDLINE  
TI **Changes in corneal** DC-potentials associated with changes in pupillary diameter.  
AU Bracher D; Butikofer R; Garrett F; Ludin H P  
SO Graefes Arch Clin Exp Ophthalmol, (1983) 220 (3) 122-9.  
Journal code: FPR. ISSN: 0721-832X.  
CY GERMANY, WEST: Germany, Federal Republic of  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 8309  
AB Using light-emitting diodes we stimulated monocularly with light intensities of between 7.5 and 1,800 cd/m<sup>2</sup>, and recorded simultaneously the Dc-electroretinogram and pupillary movements of the stimulated and the contralateral eye. In some investigations, the visual evoked potential and the activity from the periorbicular

muscles were also recorded. Various drugs acting on the autonomous nervous system were topically applied and their efforts studied. In the eye with an untreated pupil, stimulated or contralateral, a corneo positive potential coincident with pupillary constriction was seen (cu-wave), provided the pupil was large beforehand, a corneonegative deflection dominated, which was also coincident with pupillary constriction (mu-wave). Parasympathicolytics or -mimetics abolished both the cu and mu-wave. We conclude that the cu-wave is related to depolarization of the sphincter pupillae during constriction, whereas the mu-wave might be related to a modification of the potential distribution between the pigment epithelium and the tissue surrounding the eye in the case where the pupil is constricted beyond a critical point.

CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't  
Adult

**\*Cornea: PH, physiology**

Electric Stimulation

**Electrodes**

Electroretinography

Evoked Potentials, Visual

Phenylephrine: PD, pharmacology

Pilocarpine: PD, pharmacology

Pupil: DE, drug effects

**\*Pupil: PH, physiology**

**\*Reflex, Pupillary**

Tropicamide: PD, pharmacology

RN 1508-75-4 (Tropicamide); 59-42-7 (Phenylephrine); 92-13-7  
(Pilocarpine)

L23 ANSWER 8 OF 8 MEDLINE

AN 73036555 MEDLINE

TI Electrical **profiles** in the **corneal** epithelium.

AU Klyce S D

SO J Physiol (Lond), (1972 Oct) 226 (2) 407-29.

Journal code: JQV. ISSN: 0022-3751.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 7302

CT Check Tags: Animal; In Vitro

Anura

Basement Membrane: CY, cytology

Cell Membrane

Chlorides: ME, metabolism

**\*Cornea: PH, physiology**

Dyes

Electric Conductivity

Epithelium: CY, cytology

Epithelium: PH, physiology

Iontophoresis



\*Membrane Potentials  
  **Microelectrodes**  
  Models, Biological  
  Potassium: ME, metabolism  
  Rabbits  
  Rana catesbeiana  
  Sodium: ME, metabolism

=> d [REDACTED] 1-79 [REDACTED]

- L17 ANSWER 1 OF 79 MEDLINE  
TI Skin ERGs: their effectiveness in paediatric visual assessment, confounding factors, and comparison with ERGs recorded using various types of corneal electrode.
- L17 ANSWER 2 OF 79 MEDLINE  
TI Complicated Cogan's syndrome with aortic insufficiency and coronary stenosis.
- L17 ANSWER 3 OF 79 MEDLINE  
TI Ocular artifacts in EEG and event-related potentials. I: Scalp topography.
- L17 ANSWER 4 OF 79 MEDLINE  
TI Using corneal oxygen demand to optimize rigid contact lens design.
- L17 ANSWER 5 OF 79 MEDLINE  
TI Dielectric measurements on the rabbit cornea using a surface electrode.
- L17 ANSWER 6 OF 79 MEDLINE  
TI Corneal electrode for recording electroretinograms in rats.
- L17 ANSWER 7 OF 79 MEDLINE  
TI An electrical artifact associated with the ERG-jet gold foil electrode.
- L17 ANSWER 8 OF 79 MEDLINE  
TI New noncorneal HK-loop electrode for clinical electroretinography.
- L17 ANSWER 9 OF 79 MEDLINE  
TI Electrical fields in the vicinity of epithelial wounds in the isolated bovine eye.
- L17 ANSWER 10 OF 79 MEDLINE  
TI The neural retina of the frog contributes a slow cornea-positive potential to the electroretinogram.
- L17 ANSWER 11 OF 79 MEDLINE  
TI A method for exceptionally low noise single channel recordings.

L17 ANSWER 12 OF 79 MEDLINE

TI Influence of rigid contact lens base curve radius on tear pump efficiency.

L17 ANSWER 13 OF 79 MEDLINE

TI Dark-adapted luminance-response functions with skin and corneal electrodes.

L17 ANSWER 14 OF 79 MEDLINE

TI Responses to oxygen deprivation: variations among human corneas.

L17 ANSWER 15 OF 79 MEDLINE

TI Spatial variation of the local tissue oxygen diffusion coefficient measured in situ in the cat retina and cornea.

L17 ANSWER 16 OF 79 MEDLINE

TI Corneal epithelial oxygen uptake rate in diabetes mellitus.

L17 ANSWER 17 OF 79 MEDLINE

TI Resting voltage measurements of the rabbit corneal endothelium using patch-current clamp techniques.

L17 ANSWER 18 OF 79 MEDLINE

TI A new speculum electrode for electroretinography.

L17 ANSWER 19 OF 79 MEDLINE

✓ TI [Microdiathermocoagulation in the treatment of herpetic keratitis].  
Mikrodiatermokoaguliatsiia v lechenii gerpeticheskogo keratita.

L17 ANSWER 20 OF 79 MEDLINE

TI Advice on iontophoresis [letter; comment].

L17 ANSWER 21 OF 79 MEDLINE

TI Dye and electrical coupling between cells of the rabbit corneal endothelium.

L17 ANSWER 22 OF 79 MEDLINE

TI Microelectrode studies of amphotericin B on Na<sup>+</sup> and K<sup>+</sup> conductance in bullfrog cornea.

L17 ANSWER 23 OF 79 MEDLINE

TI Role of alpha 1- and alpha 2-adrenergic receptors in Cl<sup>-</sup> transport across frog corneal epithelium.

L17 ANSWER 24 OF 79 MEDLINE

TI Tissue oxygen uptake from the atmosphere by a new, noninvasive polarographic technique with application to corneal metabolism.

L17 ANSWER 25 OF 79 MEDLINE

TI Cl<sup>-</sup> secretagogues increase basolateral K<sup>+</sup> conductance of frog

corneal epithelium.

L17 ANSWER 26 OF 79 MEDLINE

TI Microelectrode studies of potential difference responses to changes in stromal K<sup>+</sup> in bullfrog cornea.

L17 ANSWER 27 OF 79 MEDLINE

TI Variation in threshold and pattern of electroshock-induced seizures in rats depending on site of stimulation.

L17 ANSWER 28 OF 79 MEDLINE

TI Contribution from proximal retina to intraretinal pattern ERG: the M-wave.

L17 ANSWER 29 OF 79 MEDLINE

TI Polarography: an oxygen survey correlating oxygen transmissibility to "EOP" values.

L17 ANSWER 30 OF 79 MEDLINE

TI [Effect of electrical stimulation in the kindling regimen on brain mediator systems in rats].

Vliianie elektricheskikh stimuliatsii v rezhime raskachki na mediatornye sistemy golovnogo mozga krys.

L17 ANSWER 31 OF 79 MEDLINE

TI Mode of inhibition of active chloride transport in the frog cornea by furosemide.

L17 ANSWER 32 OF 79 MEDLINE

TI Intracellular activities of chloride, potassium and sodium ions in rabbit corneal epithelium.

L17 ANSWER 33 OF 79 MEDLINE

TI Intracellular ion activities and Cl-transport mechanisms in bullfrog corneal epithelium.

L17 ANSWER 34 OF 79 MEDLINE

✓TI Cell finder speeds impalements with microelectrodes.

L17 ANSWER 35 OF 79 MEDLINE

TI Effect of the shooting position on the stunning of calves by captive bolt.

L17 ANSWER 36 OF 79 MEDLINE

TI Measurement of corneal oxygen uptake.

L17 ANSWER 37 OF 79 MEDLINE

TI Electroretinography by skin electrodes and signal averaging method.

L17 ANSWER 38 OF 79 MEDLINE

TI Electroretinographic testing in diabetics: a comparison study of the

Burian-Allen and the Henkes corneal electrodes.

L17 ANSWER 39 OF 79 MEDLINE

TI Evaluation of the Burian-Allen and Henkes electrodes for electroretinography in diabetics.

L17 ANSWER 40 OF 79 MEDLINE

✓ TI [Basic principles and the methods of electronystagmography (a brief review of the literaure)].  
Osnovnye prntsipy i metodika elektronistagmografii (kratkii obzor literatury).

L17 ANSWER 41 OF 79 MEDLINE

✓ TI Versatile piezoelectric driver for cell puncture.

L17 ANSWER 42 OF 79 MEDLINE

TI [Presentation of a new electrode-holding lens permitting the recording of the coupled E.R.G.-visual evoked potential].  
Presentation d'une nouvelle lentille porte-electrode permettant l'enregistrement couple E.R.G.-P.E.V.

L17 ANSWER 43 OF 79 MEDLINE

TI Intracellular potassium activity of isolated human and rabbit corneal epithelium.

L17 ANSWER 44 OF 79 MEDLINE

? ✓ TI A new type of corneal electrode for electroretinography.

L17 ANSWER 45 OF 79 MEDLINE

TI Corneal wick electrode for recording bright flash electroretinograms and early receptor potentials.

L17 ANSWER 46 OF 79 MEDLINE

TI [Evaluation of the structure of the preserved corneal tissue according to the dynamics of its electric parameters].  
Otsenka sostoianiia struktury konservirovannoi rogovichnoi tkani po dinamike ee elektricheskikh parametrov.

L17 ANSWER 47 OF 79 MEDLINE

TI Some characteristics of the C-wave of ERGs recorded by a pair of electrodes on the cornea and sclera.

L17 ANSWER 48 OF 79 MEDLINE

TI A corneal electrode for patterned stimulus electroretinography.

L17 ANSWER 49 OF 79 MEDLINE

TI A new corneal electrode for electroretinography.

L17 ANSWER 50 OF 79 MEDLINE

TI DC recording of the human corneofundal potential.

L17 ANSWER 51 OF 79 MEDLINE

TI A comparison of corneal trauma induced by two techniques for performing electroretinography.

L17 ANSWER 52 OF 79 MEDLINE

TI Cornea and lens oxygen consumption in rabbit and trout: a comparative study.

L17 ANSWER 53 OF 79 MEDLINE

TI The electroretinographic response to alcohol of the rat retina under various light adapted states.

L17 ANSWER 54 OF 79 MEDLINE

TI Oxygen consumption by the component layers of the cornea.

L17 ANSWER 55 OF 79 MEDLINE

TI Intracellular potentials in the isolated human cornea.

L17 ANSWER 56 OF 79 MEDLINE

✓ TI Electronystagmography. Technical aid for diagnosis of vertebrobasilar artery insufficiency.

L17 ANSWER 57 OF 79 MEDLINE

TI A method for more comfortable electroretinography.

L17 ANSWER 58 OF 79 MEDLINE

TI Relationship of epithelial membrane potentials to corneal potential.

L17 ANSWER 59 OF 79 MEDLINE

TI In vitro studies of trans- and intraepithelial potentials of the cornea.

L17 ANSWER 60 OF 79 MEDLINE

TI [Studies of oxygen tension in ocular tissues and aqueous humor using polarography].

Die Untersuchung der Sauerstoffspannung in den Geweben und im Kammerwasser des Auges mit Hilfe der Polarographie.

L17 ANSWER 61 OF 79 MEDLINE

TI [Electroexcitability of the cornea in keratitis caused by burns].  
Elektrovozbudimost' regovitsy v dinamike ozhogovogo keratita.

L17 ANSWER 62 OF 79 MEDLINE

✓ TI Canthi skin electrode method with corneal displacement.

L17 ANSWER 63 OF 79 MEDLINE

TI In vivo measurements of oxygen tension in the cornea, aqueous humor, and anterior lens of the open eye.

L17 ANSWER 64 OF 79 MEDLINE

TI Separation of receptor and lamina potentials in the

electroretinogram of normal and mutant Drosophila.

L17 ANSWER 65 OF 79 MEDLINE

TI [Characteristics and possibilities of use in electroretinography of a new corneo-indifferent electrode].  
Caratteristiche e possibilit`a d'impiego in E.R.Grafia di un nuovo elettrodo corneo-indifferente.

L17 ANSWER 66 OF 79 MEDLINE

TI Oxygen tensions at the epithelial surface with a contact lens in situ.

L17 ANSWER 67 OF 79 MEDLINE

TI [Computer technic in clinical electroretinography].  
Beitrag zur Ableitungstechnik des klinischen Elektroretinogramms.

L17 ANSWER 68 OF 79 MEDLINE

TI [Adapto-electrooculography].  
Adaptoelektrookulografiia.

L17 ANSWER 69 OF 79 MEDLINE

TI The clinical ERG detected with skin electrodes.

L17 ANSWER 70 OF 79 MEDLINE

TI [Suitability of paw and eye electrodes in experimental electroconvulsion in the mouse].  
Zur Eignung von Pfoten- und Augenelektroden beim experimentellen Elektrokrampf der Maus.

L17 ANSWER 71 OF 79 MEDLINE

TI Effect of anions and cations on membrane potential of rabbit corneal epithelium.

L17 ANSWER 72 OF 79 MEDLINE

TI Effect of cervical sympathetic stimulation on accommodation in guanethidine-treated monkeys.

L17 ANSWER 73 OF 79 MEDLINE

TI The effects of contact lenses on the human cornea. II. Physiological experiments related to the corneal respiration induced by the wearing of contact lenses.

L17 ANSWER 74 OF 79 MEDLINE

TI Focal recording of responses evoked by light in the lamina ganglionaris of the fly Sarcophaga bullata.

L17 ANSWER 75 OF 79 MEDLINE

TI Intracellular potentials of the corneal epithelium.

L17 ANSWER 76 OF 79 MEDLINE

TI Intracellular electrical potentials in the rabbit corneal

epithelium.

L17 ANSWER 77 OF 79 MEDLINE

TI [Mean frequency of extremes and mean amplitude of electrocorticogram in dynamics of thiopental anesthesia. (Data of chronic and acute experiments)].  
Sredniaia chastota ekstremumov i sredniaia amilituda elektrokortikogrammy v dinamike tiopentalovogo narkoza. (Dannye khronicheskikh i ostirykh opytov).

L17 ANSWER 78 OF 79 MEDLINE

TI Potentials in frog cornea and microelectrode artifact.

L17 ANSWER 79 OF 79 MEDLINE

TI Comparative study of the mode of therapy of iontophoresis of penicillin and subconjunctival soframycine in the treatment of corneal ulcers.

~~17 19, 34, 40, 41, 44, 56, 62, 68. all~~

~~17~~ ANSWER 19 OF 79 MEDLINE

AN 90333502 MEDLINE

TI [Microdiathermocoagulation in the treatment of herpetic keratitis].  
Mikrodiatermokoaguliatsiia v lechenii gerpeticheskogo keratita.

AU Kasparov A A; Ogenesians V A; Riabokon' B V; Gorbovitskaia G E

SO Vestn Oftalmol, (1990 Jan-Feb) 106 (1) 37-41.

Journal code: XAO. ISSN: 0042-465X.

CY USSR

DT Journal; Article; (JOURNAL ARTICLE)

LA Russian

EM 9011

AB The authors analyze the efficacy of microdiathermocoagulation (MDC) in 126 patients with herpetic keratitis. Combined use of MDC and soft contact highly hydrophilic lenses preimpregnated with poludan, an interferon inductor solution, has helped reduce almost twofold the mean period of treatment of 80 patients with dendritic keratitis as compared to idoxuridine monotherapy. The study has shown the advantages of a soft contact lens over ointment dressing prescribed after such microsurgical manipulations to patients with superficial herpetic keratitis. A special microelectrode scarifier is suggested. The efficacy of MDC in the treatment of herpetic stromal keratitis with ulceration has been demonstrated, as well as in the management of superinfection manifestations (purulent ulcer, abscess of the cornea). The technique and the results of MDC are discussed and compared to mechanical abrasion and argon laser coagulation in herpetic keratitis.

CT Check Tags: Comparative Study; Human  
Adult

Combined Modality Therapy  
Contact Lenses, Hydrophilic  
Drug Therapy, Combination

Electrocoagulation: IS, instrumentation  
\*Electrocoagulation: MT, methods  
English Abstract  
Evaluation Studies  
Idoxuridine: AD, administration & dosage  
Interferon Inducers: AD, administration & dosage  
Keratitis, Dendritic: DT, drug therapy  
\*Keratitis, Dendritic: SU, surgery  
Microelectrodes  
Microsurgery: IS, instrumentation  
\*Microsurgery: MT, methods  
Middle Age  
Ophthalmic Solutions

RN 54-42-2 (Idoxuridine)  
CN 0 (poludan); 0 (Interferon Inducers); 0 (Ophthalmic Solutions)

L17 ANSWER 34 OF 79 MEDLINE

AN 83014237 MEDLINE

TI Cell finder speeds impalements with microelectrodes.

AU Marshall W S; Klyce S D

NC EY03311

SO Pflugers Arch, (1981 Sep) 391 (3) 258-9.

Journal code: OZX. ISSN: 0031-6768.

CY GERMANY, WEST: Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 8301

CT Check Tags: Animal; Support, U.S. Gov't, P.H.S.

Cell Membrane

Cornea: CY, cytology

Epithelium: CY, cytology

\*Microelectrodes

Rabbits

L17 ANSWER 40 OF 79 MEDLINE

AN 80216180 MEDLINE

TI [Basic principles and the methods of electronystagmography (a brief review of the literature)].

Osnovnye printsipy i metodika elektronistagmografii (kratkii obzor literatury).

AU Yanchev K

SO Zh Ushn Nos Gorl Bolezn, (1980 May-Jun) (3) 82-6.

Journal code: YAI. ISSN: 0044-4650.

CY USSR

DT Journal; Article; (JOURNAL ARTICLE)

LA Russian

EM 8010

CT Check Tags: Human

Action Potentials

Calibration



**Cornea: PH, physiology**

**Electrodes**

Electronystagmography: IS, instrumentation

\*Electronystagmography: MT, methods

Electrophysiology

Eye Movements

Mathematics

Periodicity

Retina: PH, physiology

L17 ANSWER 41 OF 79 MEDLINE

AN 80211525 MEDLINE

TI Versatile piezoelectric driver for cell puncture.

AU Fromm M; Weskamp P; Hegel U

SO Pflugers Arch, (1980 Mar) 384 (1) 69-73.

Journal code: OZX. ISSN: 0031-6768.

CY GERMANY, WEST: Germany, Federal Republic of

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 8010

AB A simple and versatile tool facilitating micropuncture of small cells is described which utilizes a commercial piezoelectric element made from a stacked column of monomorph ceramic discs. The device is able to advance complete input stage-electrode-assemblies with high speed and can be used in combination with conventional micromanipulators. Advancing characteristics as recorded optically at high magnification demonstrated less axial vibration, although faster action, than two other modern micropositioners driven by step motors. In biological experiments on selected tissues (Necturus gallbladder epithelium, Amphiuma renal distal tubule cells, rabbit and human corneal endothelium) the combined use of micromanipulator and piezo-stepper was, in all cases, superior to the use of a micromanipulator alone: the percentage of successful cell penetrations increased, cell potentials were stable for a longer time, and the durability of electrode-tips improved.

CT Check Tags: Animal; Human

**Cornea: PH, physiology**

Epithelium: PH, physiology

Gallbladder: PH, physiology

Kidney Tubules, Distal: PH, physiology

Membrane Potentials

**Microelectrodes**

\*Micromanipulation: IS, instrumentation

Rabbits

Urodela: PH, physiology

L17 ANSWER 44 OF 79 MEDLINE

AN 80062660 MEDLINE

TI A new type of corneal electrode for electroretinography.

AU Nielsen P G

SO Am J Ophthalmol, (1979 Nov) 88 (5) 942-3.  
Journal code: 30Q. ISSN: 0002-9394.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Abridged Index Medicus Journals; Priority Journals  
EM 8003  
CT Check Tags: Human  
\*Cornea  
\*Electrodes  
\*Electroretinography: IS, instrumentation  
Gold  
Methacrylates

L17 ANSWER 56 OF 79 MEDLINE  
AN 74114032 MEDLINE  
TI Electronystagmography. Technical aid for diagnosis of  
vertebrobasilar artery insufficiency.  
AU Toglia J U  
SO Dis Nerv Syst, (1973 Oct-Nov) 34 (7) 379-83.  
Journal code: EAL. ISSN: 0012-3714.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 7406  
CT Check Tags: Human  
Action Potentials  
\*Basilar Artery: PP, physiopathology  
Brain Stem: PP, physiopathology  
Cerebral Arteriosclerosis: CO, complications  
Cerebrovascular Disorders: CO, complications  
\*Cerebrovascular Disorders: DI, diagnosis  
Cornea: PP, physiopathology  
Electrodes  
\*Electrooculography: IS, instrumentation  
Eye Movements  
\*Nystagmus: ET, etiology  
Retina: PP, physiopathology  
\*Vertebral Artery: PP, physiopathology  
Vertigo: ET, etiology

L17 ANSWER 62 OF 79 MEDLINE  
AN 72102124 MEDLINE  
TI Canthi skin electrode method with corneal displacement.  
AU Stephens G M; Inomata K; Cinotti A; Kiebel G; Manev I  
SO Vision Res, (1971 Oct) 11 (10) 1213.  
Journal code: XEP. ISSN: 0042-6989.  
CY ENGLAND: United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English

FS Priority Journals  
EM 7206  
CT Check Tags: Human  
Contact Lenses  
**\*Cornea: PH, physiology**  
**\*Electrodes**  
**\*Electroretinography**  
Methods  
Skin

L17 ANSWER 68 OF 79 MEDLINE  
AN 71130453 MEDLINE  
TI [Adapto-electrooculography].  
Adaptoelektrookulografiia.  
AU Nemtseev G I  
SO Vestn Oftalmol, (1970) 4 35-8.  
Journal code: XAO. ISSN: 0042-465X.  
CY USSR  
DT Journal; Article; (JOURNAL ARTICLE)  
LA Russian  
EM 7106  
CT Check Tags: Human  
**\*Adaptation, Ocular**  
**Cornea: PP, physiopathology**  
**Electrodes**  
**\*Electrooculography**  
English Abstract  
Light  
Retina: PP, physiopathology  
Retinal Pigments

=> file home

FILE 'HOME' ENTERED AT 12:03:22 ON 25 APR 95

~~display history full 124=~~

(FILE 'MEDLINE' ENTERED AT 11:25:01 ON 25 APR 95)

FILE 'HCA, WPIDS, BIOSIS, EMBASE' ENTERED AT 11:37:19 ON 25 APR 95

FILE 'HCA'

L24 8902 SEA CORNEA? OR CORNEO? OR CORNEUM?

FILE 'WPIDS'

L25 2690 SEA CORNEA? OR CORNEO? OR CORNEUM?

FILE 'BIOSIS'

L26 26594 SEA CORNEA? OR CORNEO? OR CORNEUM?

FILE 'EMBASE'

L27 27006 SEA CORNEA? OR CORNEO? OR CORNEUM?

TOTAL FOR ALL FILES

L28 65192 SEA CORNEA? OR CORNEO? OR CORNEUM?

FILE 'HCA'

L29 64 SEA L24(3A) (SHAPE# OR SHAPING# OR RESHAP? OR DENATUR? OR PROFIL? OR REPROFIL? OR REFORM? OR RE(W)FORM? OR CONTOUR? OR RECONTOUR? OR REMAK? OR REMOULD? OR REMOLD? OR REFASHION? OR RECAST? OR MOLD? OR MOULD? OR REWORK? OR RECONSTRUCT? OR REBUILD? OR REDESIGN? OR RESTRUCTUR? OR REMODEL?)

FILE 'WPIDS'

L30 174 SEA L25(3A) (SHAPE# OR SHAPING# OR RESHAP? OR DENATUR? OR PROFIL? OR REPROFIL? OR REFORM? OR RE(W)FORM? OR CONTOUR? OR RECONTOUR? OR REMAK? OR REMOULD? OR REMOLD? OR REFASHION? OR RECAST? OR MOLD? OR MOULD? OR REWORK? OR RECONSTRUCT? OR REBUILD? OR REDESIGN? OR RESTRUCTUR? OR REMODEL?)

FILE 'BIOSIS'

L31 303 SEA L26(3A) (SHAPE# OR SHAPING# OR RESHAP? OR DENATUR? OR PROFIL? OR REPROFIL? OR REFORM? OR RE(W)FORM? OR CONTOUR? OR RECONTOUR? OR REMAK? OR REMOULD? OR REMOLD? OR REFASHION? OR RECAST? OR MOLD? OR MOULD? OR REWORK? OR RECONSTRUCT? OR REBUILD? OR REDESIGN? OR RESTRUCTUR? OR REMODEL?)

FILE 'EMBASE'

L32 280 SEA L27(3A) (SHAPE# OR SHAPING# OR RESHAP? OR DENATUR? OR PROFIL? OR REPROFIL? OR REFORM? OR RE(W)FORM? OR CONTOUR? OR RECONTOUR? OR REMAK? OR REMOULD? OR REMOLD? OR REFASHION? OR RECAST? OR MOLD? OR MOULD? OR REWORK? OR RECONSTRUCT? OR REBUILD? OR REDESIGN? OR RESTRUCTUR? OR REMODEL?)

TOTAL FOR ALL FILES

L33 821 SEA L28(3A) (SHAPE# OR SHAPING# OR RESHAP? OR DENATUR? OR PROFIL? OR REPROFIL? OR REFORM? OR RE(W)FORM? OR CONTOUR? OR RECONTOUR? OR REMAK? OR REMOULD? OR REMOLD? OR REFASHION? OR RECAST? OR MOLD? OR MOULD? OR REWORK? OR RECONSTRUCT

UCT? OR REBUILD? OR REDESIGN? OR RESTRUCTUR? OR REMODEL?)

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FILE 'HCA'
L34      420 SEA L24(3A) (ALTER? OR MODIF? OR CHANG? OR TRANSFORM? OR T
        RANSMUTAT?)
FILE 'WPIDS'
L35      77 SEA L25(3A) (ALTER? OR MODIF? OR CHANG? OR TRANSFORM? OR T
        RANSMUTAT?)
FILE 'BIOSIS'
L36     1292 SEA L26(3A) (ALTER? OR MODIF? OR CHANG? OR TRANSFORM? OR T
        RANSMUTAT?)
FILE 'EMBASE'
L37     1370 SEA L27(3A) (ALTER? OR MODIF? OR CHANG? OR TRANSFORM? OR T
        RANSMUTAT?)
TOTAL FOR ALL FILES
L38     3159 SEA L28(3A) (ALTER? OR MODIF? OR CHANG? OR TRANSFORM? OR T
        RANSMUTAT?)

FILE 'LCA' ENTERED AT 11:51:00 ON 25 APR 95
L39     1727 SEA ELECTROD? OR ANOD## OR CATHOD## OR MICROELECTROD?

FILE 'HCA, WPIDS, BIOSIS, EMBASE' ENTERED AT 11:51:07 ON 25 APR 95
FILE 'HCA'
L40     5212 SEA ELECTROTHERMAL? OR ELECTROTHERMO?
FILE 'WPIDS'
L41     1485 SEA ELECTROTHERMAL? OR ELECTROTHERMO?
FILE 'BIOSIS'
L42     667 SEA ELECTROTHERMAL? OR ELECTROTHERMO?
FILE 'EMBASE'
L43     554 SEA ELECTROTHERMAL? OR ELECTROTHERMO?
TOTAL FOR ALL FILES
L44     7918 SEA ELECTROTHERMAL? OR ELECTROTHERMO?
FILE 'HCA'
L45     67398 SEA ROUND? OR CIRCULAR? OR CIRCLE?
FILE 'WPIDS'
L46     253654 SEA ROUND? OR CIRCULAR? OR CIRCLE?
FILE 'BIOSIS'
L47     51675 SEA ROUND? OR CIRCULAR? OR CIRCLE?
FILE 'EMBASE'
L48     36891 SEA ROUND? OR CIRCULAR? OR CIRCLE?
TOTAL FOR ALL FILES
L49     409618 SEA ROUND? OR CIRCULAR? OR CIRCLE?
FILE 'HCA'
L50      0 SEA (NONVISUAL? OR NON(W)VISUAL?) (3A) (AXIS? OR AXES# OR C
        OORDINAT? OR PLANE# OR PLANAR? OR AXIAL? OR LINE# OR CHOR
        D? OR TANGENT? OR DIAGONAL? OR SECANT? OR PERPENDICULAR?)

FILE 'WPIDS'
L51      1 SEA (NONVISUAL? OR NON(W)VISUAL?) (3A) (AXIS? OR AXES# OR C
        OORDINAT? OR PLANE# OR PLANAR? OR AXIAL? OR LINE# OR CHOR
        D? OR TANGENT? OR DIAGONAL? OR SECANT? OR PERPENDICULAR?)

```

## FILE 'BIOSIS'

L52 8 SEA (NONVISUAL? OR NON(W)VISUAL?) (3A) (AXIS? OR AXES# OR C  
COORDINAT? OR PLANE# OR PLANAR? OR AXIAL? OR LINE# OR CHOR  
D? OR TANGENT? OR DIAGONAL? OR SECANT? OR PERPENDICULAR?)

## FILE 'EMBASE'

L53 7 SEA (NONVISUAL? OR NON(W)VISUAL?) (3A) (AXIS? OR AXES# OR C  
COORDINAT? OR PLANE# OR PLANAR? OR AXIAL? OR LINE# OR CHOR  
D? OR TANGENT? OR DIAGONAL? OR SECANT? OR PERPENDICULAR?)

## TOTAL FOR ALL FILES

L54 16 SEA (NONVISUAL? OR NON(W) VISUAL?) (3A) (AXIS? OR AXES# OR  
COORDINAT? OR PLANE# OR PLANAR? OR AXIAL? OR LINE# OR CHO  
RD? OR TANGENT? OR DIAGONAL? OR SECANT? OR PERPENDICULAR?  
)

FILE 'HOME' ENTERED AT 11:54:12 ON 25 APR 95

FILE 'HCA, WPIDS, BIOSIS, EMBASE' ENTERED AT 11:56:16 ON 25 APR 95  
FILE 'HCA'

L55 6 SEA (L29 OR L34) AND L39

## FILE 'WPIDS'

L56 4 SEA (L30 OR L35) AND L39

## FILE 'BIOSIS'

L57 11 SEA (L31 OR L36) AND L39

## FILE 'EMBASE'

L58 7 SEA (L32 OR L37) AND L39

## TOTAL FOR ALL FILES

L59 28 SEA (L33 OR L38) AND L39

~~FILE 'HCA'~~

~~L60 6 SEA (L29 OR L34) AND (L39 OR L40)~~

~~FILE 'WPIDS'~~

~~L61 4 SEA (L30 OR L35) AND (L39 OR L41)~~

~~FILE 'BIOSIS'~~

~~L62 11 SEA (L31 OR L36) AND (L39 OR L42)~~

~~FILE 'EMBASE'~~

~~L63 7 SEA (L32 OR L37) AND (L39 OR L43)~~

## TOTAL FOR ALL FILES

L64 28 SEA (L33 OR L38) AND (L39 OR L44)

## FILE 'HCA'

L65 0 SEA L60 AND (L45 OR L50)

## FILE 'WPIDS'

L66 0 SEA L61 AND (L46 OR L51)

## FILE 'BIOSIS'

L67 0 SEA L62 AND (L47 OR L52)

## FILE 'EMBASE'

L68 0 SEA L63 AND (L48 OR L53)

## TOTAL FOR ALL FILES

L69 0 SEA L64 AND (L49 OR L54)

FILE 'HOME' ENTERED AT 12:00:17 ON 25 APR 95

FILE 'HOME' ENTERED AT 12:03:22 ON 25 APR 95

FILE MEDLINE

FILE LAST UPDATED: 19 APR 1995 (950419/UP). FILE COVERS 1966 TO DA  
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AUTHORED OR CO-AUTHORED BY DR. BERNARD FISHER WITH THE PHRASE  
"SCIENTIFIC MISCONDUCT-DATA TO BE REANALYZED." ALL SUCH ANNOTATION  
HAVE BEEN REMOVED OR ARE BEING REMOVED. WE APOLOGIZE FOR ANY PROBL  
OR CONCERNS THIS MAY HAVE CAUSED. USERS SHOULD DISREGARD THOSE PRI  
ANNOTATIONS.

FILE HCA

FILE COVERS 1967 - 15 Apr 1995 (950415/ED) VOL 122 ISS 16

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FILE WPIDS

FILE LAST UPDATED: 12 APR 95 <950412/UP>

>>>UPDATE WEEKS:

MOST RECENT DERWENT WEEK 9514 <199514/DW>

DERWENT WEEK FOR CHEMICAL CODING: 9506

DERWENT WEEK FOR POLYMER INDEXING: 9510

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> DERWENT POLYMER INDEXING THESAURUS AVAILABLE IN FIELD /PLE <<<

>>> PATENT IMAGES AVAILABLE FOR PRINT AND DISPLAY <<<

>>> 7 MILLIONTH RECORD ONLINE IN DW9514. PRIZE DRAW - SEE NEWS <<<

>>> TIMELINESS OF UPDATING IMPROVED - SEE NEWS <<<

FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT

FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 11 April 1995 (950411/ED)

CAS REGISTRY NUMBERS (R) LAST ADDED: 12 April 1995 (950412/UP)

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information from both publications. SDIs will now be run weekly. F  
more information enter HELP UPDATE and HELP COST at an arrow  
prompt(=>).

FILE EMBASE

FILE COVERS 1974 TO 20 Apr 1995 (950420/ED)

FILE LCA

LCA IS A STATIC LEARNING FILE

FILE HOME

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FILE 'HCA' ENTERED AT 12:04:38 ON 25 APR 95  
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FILE COVERS 1967 - 15 Apr 1995 (950415/ED) VOL 122 ISS 16

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=> d 60.1-6 cbib abs hitind

60. ANSWER 1 OF 6 HCA COPYRIGHT 1995 ACS

104:107092 Biochemical transformation of bulbar conjunctiva into corneal epithelium: an electrophoretic analysis. Harris, T. M.; Berry, E. R.; Pakurar, A. S.; Sheppard, L. B. (Med. Coll. Virginia, Virginia Commonw. Univ., Richmond, VA, 23298, USA). Exp. Eye Res., 41(5), 597-605 (English) 1985. CODEN: EXERA6. ISSN: 0014-4835.

AB When the entire corneal epithelium of the rabbit is mech. removed, the denuded corneal stroma is completely resurfaced in 5-10 days with cells of conjunctival origin. By using high-resoln. agarose-gel electrophoresis, the sol. proteins from functional conjunctiva (CON), functional corneal epithelium (EPI), and regenerating corneal epithelium were compared at 8 intervals ranging 24 h-6 wk postscraping. Comparison of CON and EPI patterns showed 9 major mobility classes of proteins that fall into 3 subgroups: A = **anodal**, B = intermediate, and C = **cathodal**. The 9 major classes had marked similarity in distribution and mobility, which may account for the apparent ease with which CON can transform into EPI during regeneration. Electrophoretic patterns of sol. proteins from regenerating epithelium suggested that the regeneration process occurs in 3 distinct phases: 24-72 h postscraping is a period of dedifferentiation, 72 h-1 wk is a period of reorganization, and 1-6 wk is a period of differentiation. Specific protein groups were identified that represent fast-transforming, slow-transforming, conjunctival-specific, and corneal-specific proteins. Certain of these protein groups could be assocd. with particular stages in the regenerative process.

CC 13-6 (Mammalian Biochemistry)

ST protein eye conjunctiva transformation cornea

IT Proteins

(of eye conjunctiva in transformation to cornea epithelium)

IT Eye, composition

(conjunctiva, proteins of, in transformation to cornea epithelium)



L60 ANSWER 2 OF 6 HCA COPYRIGHT 1995 ACS

101:227579 Evidence for coupled transport of bicarbonate and sodium in cultured bovine corneal endothelial cells. Jentsch, Thomas J.; Keller, Svea K.; Koch, Marianne; Wiederholt, Michael (Klin. Steglitz, Freien Univ. Berlin, Berlin, D-1000/45, Fed. Rep. Ger.). J. Membr. Biol., 81(3), 189-204 (English) 1984. CODEN: JMBBBO. ISSN: 0022-2631.

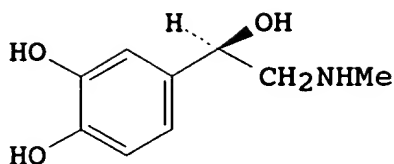
AB Using the intracellular microelectrode technique, the response of the voltage  $V$  across the plasma membrane of cultured bovine corneal endothelial cells to changes in  $\text{Na}^+$  and  $\text{HCO}_3^-$  concns. was investigated. The elec. response to changes in  $[\text{HCO}_3^-]_0$  (depolarization upon lowering and hyperpolarization upon raising  $[\text{HCO}_3^-]_0$ ) (where  $[\ ]_0$  indicates extracellular concn.) was dependent on  $\text{Na}^+$ .  $\text{Li}^+$  could fairly well be substituted for  $\text{Na}^+$ , whereas  $\text{K}^+$  or choline were much less effective. Removal of external  $\text{Na}^+$  caused depolarization, whereas a redn. led to hyperpolarization, which increased with time of preincubation in the  $\text{Na}^+$ -depleted medium. The response to changes in  $[\text{Na}^+]_0$  was dependent on  $\text{HCO}_3^-$ . In a nominally  $\text{HCO}_3^-$ -free medium, its amplitude was decreased or even reversed in sign. Application of SITS or DIDS (10-3M) had a similar effect on the response to  $\text{Na}^+$  as did  $\text{HCO}_3^-$ -depleted medium. At  $[\text{Na}^+]_0 = 151 \text{ mM}$  and  $[\text{HCO}_3^-]_0 = 46 \text{ mM}$ , the transients of  $V$  depended, with 39.0 mV/decade, on  $\text{HCO}_3^-$  and, with 15.3 mV/decade, on  $\text{Na}^+$ . After preincubation of the cells with  $\text{Li}^+$ , replacement of  $\text{Li}^+$  by choline led to similar effects as did the replacement of  $\text{Na}^+$  by choline, although the response of  $V$  was smaller with  $\text{Li}^+$ . This response could be reduced or reversed by the removal of  $\text{HCO}_3^-$  or by the application of SITS. Amiloride (10-3M) caused a reversible hyperpolarization of the steady-state potential by 8.5 mV. It did not affect the immediate response to changes in  $[\text{Na}^+]_0$  or  $[\text{HCO}_3^-]_0$ , but reduced the speed of regaining the steady-state potential after a change in  $[\text{HCO}_3^-]_0$ . Ouabain (10-4M) caused a fast depolarization of -6.8 mV, which was followed by a continuing slower depolarization. The effect was almost identical at 10-5M. Thus, corneal endothelial cells possess a cotransport for  $\text{Na}^+$  and  $\text{HCO}_3^-$ , which transports net neg. charge with these ions. It is inhibitable by stilbenes, but not directly affected by amiloride or ouabain.  $\text{Li}^+$  is a good substitute for  $\text{Na}^+$  with respect to  $\text{HCO}_3^-$  transport and is transported itself. In addn., the effect of amiloride provides indirect evidence for the existence of a  $\text{Na}^+/\text{H}^+$ -antiport. A model for the transepithelial transport of  $\text{HCO}_3^-$  across the corneal endothelium is proposed.

CC 13-2 (Mammalian Biochemistry)

L60 ANSWER 3 OF 6 HCA COPYRIGHT 1995 ACS

98:173712 Herpes simplex virus recovery in neural tissues after ocular HSV shedding induced by epinephrine iontophoresis to the rabbit cornea. Hill, James M.; Kwon, Byoung S.; Shimomura, Yoshikazu; Colborn, Gene L.; Yaghamai, Farivar; Gangarosa, Louis P. (Med. Coll. Georgia, Augusta, GA, 30912, USA). Invest. Ophthalmol. Visual Sci., 24(2), 243-7 (English) 1983. CODEN: IOVSDA. ISSN: 0146-0404.

GI



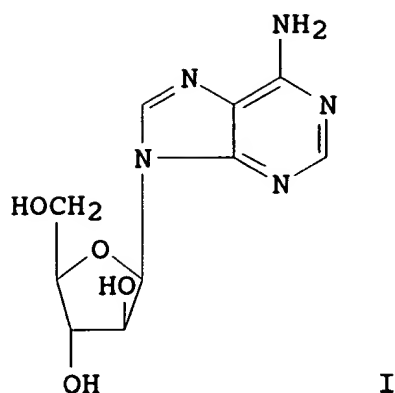
AB Ocular (herpes simplex virus) HSV-1 shedding from latently infected rabbits was induced by iontophoresis of 0.01% epinephrine (I) [51-43-4] into the eye. Anodal iontophoresis of I was performed at 0.8 mA for 8 min once a day for 3 consecutive days. Shedding was detd. by the presence of HSV-1 in the precocular tear film obtained via eye swabs. Bilateral I iontophoresis performed on selected days during 220-280 days after inoculation resulted in HSV-1 shedding in 75% of the eyes and 100% of the rabbits. Following the induction of ocular HSV-1 shedding, rabbits were killed and selected neural tissues were homogenized. Cell-free prepns. were assayed for the presence of infectious virions using primary rabbit kidney cell monolayers. When the tissues were homogenized immediately after death, virus was detected in only 1 neural tissue, the trigeminal ganglia. However, when the tissues were incubated in vitro for 18-24 h prior to the homogenization, infectious HSV-1 was recovered from homogenates of the trigeminal ganglion, superior cervical ganglion, the ophthalmic branch of the trigeminal nerve, and the root entry zone of the trigeminal nerve. A relation was noted between the time of the last ocular shedding and recovery of infectious HSV from the tissue homogenates. Furthermore, a pos. correlation in 11 eyes between the recovery of HSV-1 from the perocular tear film and HSV-1 recovery from 1 or more corresponding neural tissues was found. Apparently, I iontophoresis to the cornea triggered an alteration in the state of the virus in the neural tissues of the latently infected rabbits and the change can be related to the induced ocular shedding.

CC 2-8 (Mammalian Hormones)  
Section cross-reference(s): 14

L60 ANSWER 4 OF 6 HCA COPYRIGHT 1995 ACS

92:432 Effect of iontophoretic and topical application of antiviral agents in treatment of experimental HSV-1 keratitis in rabbits. Kwon, Byoung Se; Gangarosa, Louis P.; Park, No-Hee; Hull, David S.; Fineberg, Edward; Wiggins, Carol; Hill, James M. (Dep. Cell Mol. Biol., Med. Coll. Georgia, Augusta, GA, USA). Invest. Ophthalmol. Visual Sci., 18(9), 984-8 (English) 1979. CODEN: IOVSDA. ISSN: 0146-0404.

GI



- AB **Cathodal** iontophoresis of Vidarabine monophosphate (9-.beta.-D-arabinofuranosyladenine 5'-monophosphate) (I) [29984-33-6] was performed once daily for 3 days for the treatment of exptl. herpes simplex virus type 1 (HSV-1) keratitis in rabbit eyes, and the therapeutic efficacy was compared with that of topical treatment of I and idoxuridine (IDU) administered 5 times daily for 4 days. With the treatment initiated 24 h after viral inoculation, I **cathodal** iontophoresis resulted in significant suppression of epithelial and anterior segment disease processes. Topical IDU (0.5%) or I (10%) also improved the disease process when compared to the placebo-treated group; however, iontophoresis of I resulted in a more marked improvement. Slit-lamp examn. indicated that iontophoresis did not cause any observable pathologic **changes in corneal epithelium, stroma, conjunctiva, or iris** of rabbit eyes. Apparently, iontophoresis of I is a safe and effective approach for preventing the development of herpes simplex keratitis in rabbits.
- CC 1-5 (Pharmacodynamics)

L60 ANSWER 5 OF 6 HCA COPYRIGHT 1995 ACS

74:123369 Suitability of limb and corneal **electrodes** in [producing] experimental electroconvulsions in the mouse. Walther, Heinz; Wingrich, H. (Inst. Pharmakol. Toxikol., Med. Akad. "Carl Gustav Carus" Dresden, Dresden, E. Ger.). Z. Med. Labortech., 11(4), 218-26 (German) 1970. CODEN: ZMDLAZ.

- AB The same pattern of max. elec. convulsions for pharmacol. purposes was obtained in mice with modern paw **electrodes** and **modified corneal electrodes**. For paw **electrodes** higher amperage was required with equal stimulation time than for corneal **electrodes**, but smaller protective doses of anticonvulsant drugs were needed for equal protection. Because of easier attachment, paw **electrodes** are preferred for routine work.
- CC 15 (Pharmacodynamics)
- IT Convulsions

(electrodes for)

L60 ANSWER 6 OF 6 HCA COPYRIGHT 1995 ACS

71:111087 Neuropharmacological investigation of some trans-tetrahydrocannabinol derivatives. Lipparini, F.; Scotti De Carolis, A.; Longo, V. G. (Ist. Super. Sanita, Rome, Italy). *Physiol. Behav.*, 4(4), 527-32 (English) 1969. CODEN: PHBHA4.

AB A study of the central action of six cannabinoids was carried out. The compds. studied were (-)-.DELTA.9-(I) and (-)-.DELTA.8-tetrahydrocannabinol (II), the racemic .DELTA.8-tetrahydrocannabinol, the .alpha.-methyl, and .alpha.,.alpha. dimethyl derivs. of II, and (-)-cannabidiol. The effects of these drugs were studied on the cerebral electrical activity and on spontaneous and conditioned behavior of cats, rabbits, and rats with chronically implanted **electrodes**. In the rabbit and in the rat, I, II, and the 2 methylated derivs. of II proved to have a similar effect; they induced a flattening of the electroencephalo-graphic (EEG) tracing, the disruption of the theta waves of the hippocampus and they gave rise to trains of high voltage spike-and-waves. These EEG **modifications** were accompanied by **corneal** areflexia and other signs of motor deficit, together with a state of excitation and a reduced response to painful stimuli. The racemic .DELTA.8-tetrahydrocannabinol, although provoking the same picture, proved less active. (-)-Cannabidiol provoked motor paralysis and corneal areflexia; these symptoms were accompanied by an EEG synchronization. In the cat, the performance of a conditioned instrumental discrimination exercise was blocked by the administration of 2 mg./kg. of .DELTA.9-tetrahydro-cannabinol; this effect was accompanied by a synchronization of the EEG. These results are discussed also in relation to the human effect of some of these compds. The flattening of the EEG and the appearance of the spike-and-waves may be the EEG counterpart of the psychodysleptic action of the tetrahydro-cannabinols in man.

CC 15 (Pharmacodynamics)

>> file-wpids

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>>>UPDATE WEEKS:

MOST RECENT DERWENT WEEK

9514

<199514/DW>

DERWENT WEEK FOR CHEMICAL CODING: 9506

DERWENT WEEK FOR POLYMER INDEXING: 9510

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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=> d 1-4 ibib abs

ANSWER 1 OF 4 COPYRIGHT 1995 DERWENT INFORMATION LTD

ACCESSION NUMBER: 94-183819 [22] WPIDS  
DOC. NO. NON-CPI: N94-145110  
TITLE: Moderate power excimer laser apparatus - has  
homogeneous housing containing laser **anode**  
and **cathode** with heater and temp.  
regulator for continuous discharge pulses.  
DERWENT CLASS: V08  
INVENTOR(S): DAS, P P; LARSON, D G  
PATENT ASSIGNEE(S): (CYME-N) CYMER LASER TECHNOLOGIES  
COUNTRY COUNT: 19  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9411932	A2	940526	(9422)*	EN	67
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
W: CA JP					
US 5377215	A	941227	(9506)		31

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9411932	A2	WO 93-US10805	931109
US 5377215	A	US 92-975652	921113

PRIORITY APPLN. INFO: US 92-975652 921113

AN 94-183819 [22] WPIDS

AB WO 9411932 A UPAB: 940722

The laser apparatus (10) comprises a housing with a homogeneous construction. The laser has an **anode** (20) and a **cathode** (10) disposed in spaced relationship within the housing. A heater is included for heating a space within the housing. An electrical discharge is produced (30,26) between the **anode** and **cathode**.

A heat exchanger is disposed within the housing for cooling the gas contained within. The temp. within the housing is regulated to a particular value. Additional regulation is performed upon each electrical discharge between the **anode** and **cathode**.

USE/ADVANTAGE - Laser surgery or cutting holes at precise positions in semiconductor wafers. Microprocessor controls suitably treated diagnostics in the event of lower output pulser giving immediate failure analysis. No specially trained personnel are required for testing.

Dwg.1/18

ABEQ US 5377215 A UPAB: 950214

The laser has a housing with a homogeneous construction, with an **anode** and **cathode** in spaced relationship within the housing. A heater is supported by the housing for heating the area within the housing. An electrical discharge is produced between the **anode** and the **cathode**. Gases reside within the housing for ionization and chemical reaction upon each electrical discharge between the **anode** and the **cathode**.

A heat exchanger disposed within the housing cools the gas in the housing. A temperature regulator probe controls the temperature within the housing on a continuous basis. An additional regulation of the temperature within the housing is provided upon each electrical discharge between the **anode** and the **cathode**.

USE/ADVANTAGE - For e.g. correcting vision defects and **reshaping cornea**. Removal of plaques in heart arteries. Hole cutting in semiconductor wafers. Efficient cooling of laser components. Enhanced ionisation and chemical reaction of gases due to regulation of gas temperature. Efficient laser. Prevents formation of ozone. Small motors used. Systematic testing of components on reduced output of laser.  
Dwg.1/18

L61 ANSWER 2 OF 4 COPYRIGHT 1995 DERWENT INFORMATION LTD

ACCESSION NUMBER: 93-175620 [21] WPIDS

DOC. NO. NON-CPI: N93-134618

TITLE: Alignment system for use with keratoscope to form eye measurement system - directs light beam onto cornea and directs reflections to two quadrant detectors connected to circuits to generate output when cornea correctly aligned and calculate **cornea shape** by keratoscope..

DERWENT CLASS: P31 S02 S05 T01

INVENTOR(S): PENNEY, C M

PATENT ASSIGNEE(S): (GENE) GENERAL ELECTRIC CO

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5212505	A	930518	(9321)*		8

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5212505	A	US 91-807547	911216

PRIORITY APPLN. INFO: US 91-807547 911216

AN 93-175620 [21] WPIDS  
AB US 5212505 A UPAB: 931114

The alignment system contains a light source for applying a light beam to a cornea of an eye. A first detector receives a portion of a reflected beam from the light beam reflecting off the cornea. A second detector, spaced from the first detector receives the second portion of the reflected beam. An alignment system is electrically connected to the first and second detectors for generating an output that indicates when the cornea is aligned such that the reflected beam extends from the cornea along a predetermined line.

The predetermined line corresponds to a reflection of the alignment beam from the cornea having a tangent plane which is normal to the instrument axis. The point lies on the instrument axis. Each of the first and second detectors may have at least three **electrodes** which is dependent on the position of the reflected beam. The first detector can be a quadrant detector and the second detector can be a quadrant detector.

ADVANTAGE - Allows consistent measurement of cornea, ensures that position of subjects eye is correct at moment when measurement is taken.

Dwg.1/2

L61 ANSWER 3 OF 4 COPYRIGHT 1995 DERWENT INFORMATION LTD

ACCESSION NUMBER: 82-F6593E [19] WPIDS

TITLE: **Corneal-shaping saline**

**electrode** - has tubular **electrode**  
connected to RF source and having hemispherical  
head with orifice.

DERWENT CLASS: P31 S05

INVENTOR(S): DOSS, J D; HUTSON, R L

PATENT ASSIGNEE(S): (USAT) US DEPT ENERGY

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
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US 4326529	A	820427	(8219)*		11
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PRIORITY APPLN. INFO: US 78-909865 780526; US 79-100664 791205

AN 82-F6593E [19] WPIDS

AB US 4326529 A UPAB: 930915

The **electrode** comprises a tubular nonconductive **electrode** housing having an annular expanded base which has a surface matched to a subject corneal surface. A tubular conductive **electrode** connected to a radiofrequency generating source is disposed within the **electrode** housing and longitudinally aligned with it. The **electrode** has a hemispherical head having at least one orifice.

Saline solution is circulated through the apparatus and over

the cornea to cool the corneal surface while radiofrequency electric current emitted from the **electrode** flows through the cornea to a second **electrode**, on the rear of the head. This current heats the deep corneal stroma and thus effects **corneal reshaping** as a biological response to the heat.

L61 ANSWER 4 OF 4 COPYRIGHT 1995 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: (82-A0410J [47] WPIDS  
 TITLE: Selective corneal heating device - uses multiple **electrodes** to correct refractive faults by single treatment.  
 DERWENT CLASS: P31 P32 P34 S05  
 INVENTOR(S): DOSS, J  
 PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA; (USAT) US DEPT ENERGY  
 COUNTRY COUNT: 3  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 3215832	A	821118	(8247)*		25
US 4381007	A	830426	(8319)		
CH 656303	A	860630	(8630)		
DE 3215832	C	890803	(8931)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 3215832	A	DE 82-3215832	820428

PRIORITY APPLN. INFO: US 81-258970 810430

AN 82-A0410J [47] WPIDS

AB DE 3215832 A UPAB: 930915

The h.f. probe uses combined **electrodes** rather than a single **electrode** together with an integral cooling system in order to localise heat output and the e.m. field. The use of two or more hollow elliptical **electrodes** (34,36) ensures that the field produced runs parallel rather than perpendicular to the surface of the cornea allowing deeper heating of the corneal stroma without generating undue heat in the surface fibres.

The **electrodes** are located in a non-conductive housing (38), and also serve as feeders for the conductive cooling fluid which passes through them. A synthetic shield (26) around the exterior of the **electrode** housing prevents coolant loss, allowing it to be pumped from one **electrode** to the other (94,92). Alternatively, coaxial concentric **electrodes** are used.

1/13

ABEQ DE 3215832 C UPAB: 930915



The re-shaper uses several **electrodes** in a housing open on one side plus an a.c. source and devices to feed a conducting cooling fluid onto and transport it over the cornea assisted by a damper which holds the coolant on the cornea. All the **electrodes** (34,36) should be within the housing (24), preferably made from insulating material so that one end of each **electrode** is at the open side of the housing. The housing has insulators (38) between the **electrodes** and a device (26) positions the **electrode** ends near the cornea (30). The coolant is transported away from the cornea at another **electrode**. The damper consists of a flexible surround releasably fitted to the housing.

USE/ADVANTAGE - Ophthalmology, refraction impairment.

~~Refraction corrected by cornea shaping without~~  
surgery reaches deep into collagen fibres.

#### ~~File Biosis~~

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CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNS) PRESENT  
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RECORDS LAST ADDED: 11 April 1995 (950411/ED)  
CAS REGISTRY NUMBERS (R) LAST ADDED: 12 April 1995 (950412/UP)

As of December 31, 1993 the BIOSIS File will be updated weekly with information from both publications. SDIs will now be run weekly. For more information enter HELP UPDATE and HELP COST at an arrow prompt(=>).

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~~1-11~~ ANSWER 1 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS

TI TRANSIENT CORNEAL CHANGES ASSOCIATED WITH THE USE  
OF GOLD FOIL ELECTRODES.

SO BR J OPHTHALMOL 73 (12). 1989. 980-984. CODEN: BJOPAL ISSN:  
0007-1161

AB The corneas of 50 normal subjects were examined before and after electroretinography performed with gold foil **electrodes**. Examination included slit-lamp biomicroscopy and staining with sodium fluorescein. All corneas were normal on examination prior to electroretinography. Three types of transient **corneal changes** were observed - punctate epithelial keratitis, corneal erosions, and stromal thinning. Each cornea was assigned a numerical damage score based on a simple scoring system. Thirty one subjects (62%) had some degree of **corneal change**, and in three cases (6%) follow-up was required. Multiple regression analysis was performed to discover any risk factors. Both age of the subject and the use of local anaesthetic were strongly associated

with corneal changes.

- L62 ANSWER 2 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS  
TI ELECTROPHYSIOLOGICAL AND HISTOLOGICAL OBSERVATIONS ON THE EYE OF  
ADULT FEMALE DIASTYLIS-RATHKEI CRUSTACEA MALACOSTRACA CUMACEA.  
SO BIOL BULL (WOODS HOLE) 175 (1). 1988. 144-153. CODEN: BIBUBX ISSN:  
0006-3185  
AB The approximately 200 .mu.m wide eye of Diastylis rathkei consists of  
two closely apposed eye halves with four lenticular complexes  
measuring 40 .mu.m in diameter in each. Each lenticular complex  
consists of a lens rich in 30 nm electron-opaque glycogen-like  
particles made up of smaller (5-6 nm) subunits, and a rhabdom  
comprising regularly aligned microvilli. The retinula cell somata,  
which are in a proximal location, are linked with the distally placed  
rhabdom via approximately 10 .mu.m thick, cellular strands. The  
strands are surrounded by cells crowded with reflecting organelles of  
ca. 0.8 .mu.m in diameter. Dark/light adaptational changes affect the  
position of uniformly spherical organelles measuring 0.4-0.5 .mu.m in  
diameter and presumed to contain carotenoids, the overall size of the  
rhabdom, and the diameter of individual microvilli. The latter  
measure 75 nm in the light-adapted state and 90-120 nm in the  
dark-adapted state. There is ultrastructural evidence (swollen and  
abundant endoplasmic reticulum and widely distributed glycogen-like  
particles) that, under light-adapted conditions, the retinula cells  
are in a phase of intense metabolic activity. A multilamellar  
structure, similar in appearance to that found in the organ of  
Bellonci of other crustaceans, but also resembling a trophosphongium,  
was noticed in close proximity to the eye within the optic lobe.  
Extracellular electrophysiological recordings obtained with  
NaCl-filled glass electrodes consisted of a cornea  
-negative potential change and reached a maximum amplitude  
of nearly 400 .mu.V to 300 ms flashes of white light. Superimposed  
spectral response curves from eight different animals, based on a  
criterion amplitude of 50 .mu.V, were nearly congruent in shape and  
displayed one single sensitivity peak to light of 512-549 nm in  
wavelength. Intensively/response curves obtained to light of 472,  
549, and 628 nm wavelengths and the single spectral sensitivity peak  
strongly suggest that only one type citatory visual pigment is  
involved in the visual process of D. rathkei. It is concluded that in  
spite of its tiny size, the eye of D. rathkei could be useful in the  
coordination of reproduction and synthronization of vertical  
migrations.
- L62 ANSWER 3 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS  
TI CORNEAL ALKALI BURNS 3. EARLY CHANGES IN RABBIT AQUEOUS HUMOR PH WITH  
THREE CLINICALLY SIGNIFICANT ALKALIS.  
SO FOLIA OPHTHALMOL JPN 38 (6). 1987. 829-833. CODEN: NGKYA3 ISSN:  
0015-5667  
AB Following application of 50 .mu.l of 2N sodium hydroxide (NaOH), 2N  
ammonium hydroxide (NH4OH), or 2N calcium hydroxide (Ca(OH)2) to the  
rabbit cornea, changes in aqueous humor pH were

monitored continuously using a pH microelectrode placed in the anterior chamber. The results were as follows: 1. After application of NaOH to the cornea, the aqueous humor pH began to rise at 6 seconds, reached a maximum pH of 11.17 at about 3.5 minutes and declined to 9.08 in 90 minutes. 2. Changes in aqueous humor pH with NH<sub>4</sub>OH were similar to those with NaOH: began to rise at 10 seconds, reached a maximum pH of 9.00 at 3 to 4 minutes and returned to almost normal (7.52) at 90 minutes. 3. Elevation of the aqueous humor pH with Ca(OH)<sub>2</sub> was slower than with the former two agents: began to rise at 1 minute, reached a maximum of 9.07 at 23 to 30 minutes and declined to 8.41 in 90 minutes. 4. NaOH caused the most severe early corneal opacification, followed in order by Ca(OH)<sub>2</sub> and NH<sub>4</sub>OH.

L62 ANSWER 4 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS

TI EFFECTS OF RADIOFREQUENCY HYPERTHERMIA ON THE HEALTHY CANINE CORNEA.  
SO AM J VET RES 47 (4). 1986. 913-918. CODEN: AJVRAH ISSN: 0002-9645

AB Radiofrequency hyperthermia was used to induce axial corneal lesions in the eyes of 10 dogs. Clinical observations were continued for up to 6 months, using biomicroscopy and indirect ophthalmoscopy. Eyes were harvested at intervals for light and electron microscopic evaluation. Clinical **alterations** included immediate **corneal** opacification and epithelial disruption at the site of **electrode** contact. Ulcerative keratitis persisted for 4 to 6 days, accompanied by anterior uveitis. Additional **corneal changes** included stromal thinning, edema, and vascularization. Final evaluation revealed negligible **alterations** in **corneal contour** or clarity 6 months after treatment. Microscopically, epithelial and superficial stromal necrosis preceded epithelial loss. Stromal alterations included edema (associated with focal endothelial detachments), vascularization, and inflammatory cell infiltration. Recovery was characterized by keratocytic hyperplasia and hypertrophy, epithelial proliferation, and stromal condensation.

L62 ANSWER 5 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS

TI BIOCHEMICAL TRANSFORMATION OF BULBAR CONJUNCTIVA INTO CORNEAL EPITHELIUM AN ELECTROPHORETIC ANALYSIS.

SO EXP EYE RES 41 (5). 1985 (RECD. 1986). 597-606. CODEN: EXERA6 ISSN: 0014-4835

AB When the entire corneal epithelium of the rabbit is mechanically removed, the denuded corneal stroma is completely resurfaced in 5-10 days with cells of conjunctival origin. The conjunctival cells differ from the corneal epithelial cells both morphologically and biochemically; however, within approximately 6 weeks, the conjunctival cells are converted into functional corneal epithelial cells. Using high-resolution agarose-gel electrophoresis, we compared the soluble proteins from functional conjunctiva (CON), functional corneal epithelium (EPI), and regenerating corneal epithelium at eight intervals ranging from 24 hr to 6 weeks post-scraping. Comparison of CON and EPI patterns shows nine major mobility classes of proteins that fall into three subgroups: A = **anodal**, B =

intermediate, and C = **cathodal**. The nine major classes have marked similarity in distribution and mobility, which may account for the apparent ease with which CON can transform into EPI during regeneration. Electrophoretic patterns of soluble proteins from regenerating epithelium suggest that the regeneration process occurs in three distinct phases: 24-72 hr post-scraping is a period of de-differentiation, 72 hr to 1 week is a period of reorganization, and 1-6 weeks is a period of differentiation. Specific protein groups are identified that represent fast-transforming, slow-transforming, conjunctival-specific, and **corneal**-specific proteins. Certain of these protein groups can be associated with particular stages in the regenerative process.

L62 ANSWER 6 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS  
 TI EVIDENCE FOR COUPLED TRANSPORT OF BICARBONATE AND SODIUM IN CULTURED BOVINE CORNEAL ENDOTHELIAL CELLS.  
 SO J MEMBR BIOL 81 (3). 1984. 189-204. CODEN: JMBBBO ISSN: 0022-2631  
 AB Using intracellular **microelectrode** technique, the response of the voltage V across the plasma membrane of cultured bovine **corneal** endothelial cells to **changes** in Na and bicarbonate concentrations was investigated. The electrical response to changes in  $[HCO_3^-]_o$  (depolarization upon lowering and hyperpolarization upon raising  $[HCO_3^-]_o$ ) was dependent on  $Na^+$ .  $Li^+$  could fairly well be substituted for  $Na^+$  whereas  $K^+$  or choline were much less effective. Removal of external  $Na^+$  caused a depolarization, while a readdition led to a hyperpolarization, which increased with time of preincubation in the  $Na^+$ -depleted medium. The response to changes in  $[Na^+]_o$  was dependent on bicarbonate. In a nominally bicarbonate-free medium, its amplitude was decreased or even reversed in sign. Application of SITS [4-acetamido-4'-isothiocyanostilbene 2,2'-disulfonate] or DIDS [4,4'-diisothiocyanostilbene-2,2'-disulfonate] ( $10^{-3}$  M) had a similar effect on the response to  $Na^+$  as bicarbonate-depleted medium. At  $[Na^+]_o = 151$  nM and  $[HCO_3^-]_o = 46$  mM, the transients of V depended, with  $39.0 \pm 9.0$  (SD) mV/decade, on bicarbonate and, with  $15.3 \pm 5.8$  (SD) mV/decade, on  $Na^+$ . After the preincubation of cells with Li, replacement of Li by choline led to similar effects as the replacement of  $Na^+$  by choline, though the response of V was smaller with Li. This response could be reduced or reversed by the removal of bicarbonate or by the application of SITS. Amiloride ( $10^{-3}$  M) caused a reversible hyperpolarization of the steady-state potential by  $8.5 \pm 2.6$  mV (SD). It did not affect the immediate response to changes in  $[Na^+]_o$  or  $[HCO_3^-]_o$ , but reduced the speed of regaining the steady-state potential after a change in  $[HCO_3^-]_o$ . Ouabain ( $10^{-4}$  M) caused a fast depolarization of  $-6.8 \pm 1.1$  (SD) mV, which was followed by a continuing slower depolarization. The effect was almost identical at  $10^{-5}$  M. It is suggested, that corneal endothelial cells possess a cotransport for  $Na^+$  and bicarbonate, which transports net negative charge with these ions. It is inhibitable by stilbenes, but not directly affected by amiloride or ouabain.  $Li^+$  is a good substitute for  $Na^+$  with respect to bicarbonate transport and is transported itself. In addition, the

effect of amiloride provides indirect evidence for the existence of a  $\text{Na}^+/\text{H}^+$ -antiport. A model for the transepithelial transport of bicarbonate across the corneal endothelium is proposed.

L62 ANSWER 7 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS

TI THE EFFECTS OF INITIAL LEVELS OF SWEAT DUCT FILLING AND SKIN HYDRATION ON ELECTRO DERMAL RESPONSE AMPLITUDE.

SO PSYCHOPHYSIOLOGY 20 (5). 1983. 550-557. CODEN: PSPHAF ISSN: 0048-5772

AB The many problems encountered in efforts to demonstrate conformance of **electrodermal** responses with the law of initial value have been thought by Lykken and Venables to stem in part from the operation of independent central and peripheral factors. An attempt was made at separate examination of the peripheral determinants of initial value effects using animal preparations in which the central component was interrupted. Standard electrical stimuli to sympathetic nerves were used to assess the effect of various procedures calculated to change the hydration of the **corneum** or to **change** the initial level of sweat in the ducts. Drying of the corneum can cause a marked potentiation in SRR [skin resistance response] amplitude. Increase in initial degree of duct filling does likewise. These findings are consistent with a circuit model that emphasizes the shunting effect of the corneum on the contribution of ductal resistance changes to total resistance change. Effects on SCR [skin conductance response] amplitude are more complex. The complicating effect of immediately prior activity on initial value relationships calls for considerable caution in the design and interpretation of behavioral studies that involve **electrodermal** measurement.

L62 ANSWER 8 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS

TI ELECTROLYTE MEDIUM EFFECTS ON MEASUREMENTS OF PALMAR SKIN POTENTIAL.

SO PSYCHOPHYSIOLOGY 15 (5). 1978. 474-482. CODEN: PSPHAF ISSN: 0048-5772

AB Skin potential recordings taken simultaneously with 4 different electrolytes were compared in 12 human subjects. These were polyethylene glycol, hydrated agar (at a site presoaked with water), fresh agar (i.e., not presoaked) and Unibase. The glycol controlled epidermal hydration at a minimal level, while presoaking produced a high level of hydration at the hydrated agar site. Fresh agar and Unibase represented normal recording conditions for these 2 electrolytes which were recommended as standard for **electrodermal** measurements. Two standard electrolytes were compared with each other and with recordings from hydrated and unhydrated sites. Comparisons were made for both monophasic negative SPR [skin potential response] and positive SPR and the prestimulus levels associated with each. Epidermal hydration showed a large effect on skin potential measurements. Recordings with agar and Unibase did not differ significantly. The effects of hydration were interpreted in terms of a reduction in the resistance of the stratum **corneum** and of **alterations** in the functioning of

the dermal and epidermal membranes as a result of blockage of the sweat gland pore. Both agar and Unibase substantially apparently altered the functioning of the sweat glands under some conditions, and neither may be entirely suitable for skin potential measurements.

L62 ANSWER 9 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS  
TI MEASUREMENT OF POTENTIAL PROFILE IN THE RABBIT  
CORNEA.

SO J PHYSIOL SOC JPN 35 (8-9). 1973 (RECD 1974) 395 CODEN: NISEAV ISSN:  
0031-9341

L62 ANSWER 10 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS  
TI ELECTRICAL PROFILES IN THE CORNEAL EPITHELIUM.

SO J PHYSIOL (LOND) 226 (2). 1972 407-429. CODEN: JPHYA7 ISSN: 0022-3751

L62 ANSWER 11 OF 11 BIOSIS COPYRIGHT 1995 BIOSIS  
TI MICRO ELECTRODE PROFILE OF RABBIT CORNEAL  
EPITHELIUM.

SO BIOPHYS SOC ANNU MEET ABSTR 14. 1970 199A CODEN: BPLSAN ISSN:  
0523-6800

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FILE COVERS 1974 TO 20 Apr 1995 (950420/ED)

=> d **63** 1-7 ti so ab

**63** ANSWER 1 OF 7 EMBASE COPYRIGHT 1995 ELSEVIER SCI. B.V.

TI Transient **corneal changes** associated with the  
use of gold foil **electrodes**.

SO BR. J. OPHTHALMOL., (1989) 73/12 (980-984).  
ISSN: 0007-1161 CODEN: BJOPAL

AB The corneas of 50 normal subjects were examined before and after  
electroretinography performed with gold foil **electrodes**.  
Examination included slit-lamp biomicroscopy and staining with  
sodium fluorescein. All corneas were normal on examination prior to  
electroretinography. Three types of transient **corneal**  
**changes** were observed - punctate epithelial keratitis,  
corneal erosions, and stromal thinning. Each cornea was assigned a  
numerical damage score based on a simple scoring system. Thirty one  
subjects (62%) had some degree of **corneal change**  
, and in three cases (6%) follow-up was required. Multiple  
regression analysis was performed to discover any risk factors. Both  
age of the subject and the use of local anaesthetic were strongly  
associated with **corneal changes**.

L63 ANSWER 2 OF 7 EMBASE COPYRIGHT 1995 ELSEVIER SCI. B.V.

TI Biochemical transformation of bulbar conjunctiva into corneal  
epithelium: An electrophoretic analysis.

- SO EXP. EYE RES., (1985) 41/5 (597-605).  
CODEN: EXERA6
- AB When the entire corneal epithelium of the rabbit is mechanically removed, the denuded corneal stroma is completely resurfaced in 5-10 days with cells of conjunctival origin. The conjunctival cells differ from the corneal epithelial cells both morphologically and biochemically; however, within approximately 6 weeks, the conjunctival cells are converted into functional corneal epithelial cells. Using high-resolution agarose-gel electrophoresis, we compared the soluble proteins from functional conjunctiva (CON), functional corneal epithelium (EPI), and 'regenerating' corneal epithelium at eight intervals ranging from 24 hr to 6 weeks post-scraping. Comparison of CON and EPI patterns shows nine major mobility classes of proteins that fall into three subgroups: A = **anodal**, B = intermediate, and C = **cathodal**. The nine major classes have marked similarity in distribution and mobility, which may account for the apparent ease with which CON can transform into EPI during regeneration. Electrophoretic patterns of soluble proteins from regenerating epithelium suggest that the regeneration process occurs in three distinct phases: 24-72 hr post-scraping is a period of de-differentiation, 72 hr to 1 week is a period of reorganization, and 1-6 weeks is a period of differentiation. Specific protein groups are identified that represent fast-transforming, slow-transforming, conjunctival-specific, and **corneal-specific** proteins. Certain of these protein groups can be associated with particular stages in the regenerative process.
- L63 ANSWER 3 OF 7 EMBASE COPYRIGHT 1995 ELSEVIER SCI. B.V.
- TI The effects of initial levels of sweat duct filling and skin hydration on **electrodermal** response amplitude.
- SO PSYCHOPHYSIOLOGY, (1983) 20/5 (550-557).  
CODEN: PSPHAF
- AB The many problems encountered in efforts to demonstrate conformance of **electrodermal** responses with the Law of Initial Value have been thought by Lykken and Venables to stem in part from the operation of independent central and peripheral factors. This study was an attempt at separate examination of the peripheral determinants of initial value effects using animal preparations in which the central component was interrupted. Standard electrical stimuli to sympathetic nerves were used to assess the effect of various procedures calculated to change the hydration of the **corneum** or to change the initial level of sweat in the ducts. Drying of the corneum can cause a marked potentiation in SRR amplitude. Increase in initial degree of duct filling does likewise. These findings are consistent with a circuit model that emphasizes the shunting effect of the corneum on the contribution of ductal resistance changes to total resistance change. Effects on SCR amplitude are more complex. The complicating effect of immediately prior activity on initial value relationships calls for considerable caution in the design and interpretation of behavioral studies that

involve **electrodermal** measurement.

- L63 ANSWER 4 OF 7 EMBASE COPYRIGHT 1995 ELSEVIER SCI. B.V.  
TI Herpes simplex virus recovery in neural tissues after ocular HSV shedding induced by epinephrine iontophoresis to the rabbit cornea.  
SO INVEST. OPHTHALMOL. VISUAL SCI., (1983) 24/2 (243-247).  
CODEN: IOVSDA  
AB Ocular HSV-1 shedding from latently infected rabbits was induced by iontophoresis of 0.01% epinephrine into the eye. **Anodal** iontophoresis of epinephrine was performed at 0.8 mAmps for 8 min once a day for 3 consecutive days. Shedding was determined by the presence of HSV-1 in the precocular tear film obtained via eye swabs. Bilateral epinephrine iontophoresis performed on selected days during 220-280 days after inoculation resulted in HSV-1 shedding in 75% of the eyes (30/40) and 100% of the rabbits (20/20). Following the induction of ocular HSV-1 shedding, rabbits were killed and selected neural tissues were homogenized. Cell-free preparations were assayed for the presence of infectious virions using primary rabbit kidney cell monolayers. When the tissues were homogenized immediately after death, virus was detected in only one neural tissue, the trigeminal ganglia. However, when the tissues were incubated in vitro for 18-24 hours prior to the homogenization, infectious HSV-1 was recovered from homogenates of the trigeminal ganglion, superior cervical ganglion, the ophthalmic branch of the trigeminal nerve, and the root entry zone of the trigeminal nerve. A relationship was noted between the time of the last ocular shedding and recovery of infectious HSV from the tissue homogenates. Furthermore, a positive correlation in 11 eyes between the recovery of HSV-1 from the precocular tear film and HSV-1 recovery from one or more corresponding neural tissues was found. These results suggested that epinephrine iontophoresis to the **cornea** triggered an '**alteration**' in the state of the virus in the neural tissues of the latently infected rabbits and that the change can be related to the induced ocular shedding.
- L63 ANSWER 5 OF 7 EMBASE COPYRIGHT 1995 ELSEVIER SCI. B.V.  
TI Effect of iontophoretic and topical application of antiviral agents in treatment of experimental HSV-1 keratitis in rabbits.  
SO INVEST. OPHTHALMOL. VISUAL SCI., (1979) 18/9 (984-988).  
CODEN: IOVSDA  
AB **Cathodal** (-) iontophoresis of 9 .beta. D arabinofuranosyl adenine 5' monophosphate (vidarabine monophosphate; Ara-AMP) was performed once daily for 3 days for the treatment of experimental herpes simplex virus type 1 (HSV-1) keratitis in rabbit eyes, and the therapeutic efficacy was compared with that of topical treatment of Ara AMP and idoxuridine (IDU) administered five times daily for 4 days. Without the treatment initiated 24 hr after viral inoculation. Ara AMP **cathodal** iontophoresis resulted in significant suppression of epithelial and anterior segment disease processes. Topical IDU (0.5%) or Ara-AMP (10%) also significantly improved the disease process when compared to the placebo treated group; however,



iontophoresis of Ara-AMP resulted in a more marked improvement. Slit lamp examination indicated that iontophoresis did not cause any observable pathologic **changes** in **corneal** epithelium, stroma, conjunctiva, or iris of rabbit eyes. This experiment suggests that iontophoresis of Ara-AMP is a safe and effective approach for preventing the development of herpes simplex keratitis in rabbits.

- L63 ANSWER 6 OF 7 EMBASE COPYRIGHT 1995 ELSEVIER SCI. B.V.  
TI Electrolyte medium effects on measurements of palmar skin potential.  
SO PSYCHOPHYSIOLOGY, (1978) 15/5 (474-482).  
CODEN: PSPHAF
- AB Two experiments with 12 subjects each compared potential recordings taken simultaneously with four different electrolytes. These were polyethylene glycol, hydrated agar (at a site presoaked with water), fresh agar (i.e., not presoaked), and Unibase. The glycol controlled epidermal hydration at a minimal level, while presoaking produced a high level of hydration at the hydrated agar site. Fresh agar and Unibase represented normal recording conditions for these two electrolytes which have been recommended as 'standard' for **electrodermal** measurements. This design permitted a comparison of two standard electrolytes with each other and with recordings from hydrated and unhydrated sites. These comparisons were made for both monophasic negative SPRs and positive SPRs and the prestimulus levels associated with each. The results replicated previous studies in showing a large effect of epidermal hydration on skin potential measurements. Recordings with agar and Unibase did not differ significantly. The effects of hydration were interpreted in terms of a reduction in the resistance of the stratum **corneum** and of **alterations** in the functioning of the dermal and epidermal membranes as a result of blockage of the sweat gland pore. In the light of this interpretation, it was suggested that both agar and Unibase substantially alter the functioning of the sweat glands under some conditions, and neither may be entirely suitable for skin potential measurements.
- L63 ANSWER 7 OF 7 EMBASE COPYRIGHT 1995 ELSEVIER SCI. B.V.  
TI Oxygen gradients in the anterior chamber of anesthetized rabbits.  
SO INVEST.OPHTHAL., (1974) 13/5 (386-389).  
CODEN: INOPAO
- AB Oxygen tension in the anterior chamber aqueous of rabbits has been measured as a function of position along the anatomic axis using a needle shaped platinum iridium oxygen **electrode** and the polarographic method. It was found that a linear gradient existed with an oxygen tension at the endothelial surface of 65 torr, decreasing to about 9 torr 2.25 mm behind the corneal surface. In the dead animal, the gradient was slightly larger. **Changing** the **corneal** surface temperature and the level of anesthesia (pentobarbital sodium) caused an insignificant change in oxygen tension near the **cornea** but a larger **change** closer to the lens. The gradient observed shows that the entire

cornea receives its oxygen from the atmosphere and that most of the oxygen in the anterior chamber aqueous humor is derived from the atmosphere by diffusion through the cornea. The gradient observed could explain a large portion of the variation in data previously published on aqueous oxygen tension in rabbits.